

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (canceled).

2. (canceled).

3. (currently amended): A design support system for supporting a design of a connection between a conductor and a connector terminal, comprising:

an estimation unit which learns beforehand a relationship between known connection data pertaining to connection design and unknown connection data pertaining to the connection design for the known connection data,

wherein the estimation unit estimates the unknown connection data pertaining to the known connection data in accordance with an input of the known connection data on the basis of the result of learning

The design support system according to claim 1, wherein, when the conductor and the connector terminal are connected together through crimping, the estimation unit performs learning beforehand while taking, as unknown connection data, any of a crimp width and a crimp height, a compressibility of the conductor in a direction of the crimp height, adhesion force

existing between the conductor and the connector terminal, and contact resistance existing between the conductor and the connector terminal, which are obtained after crimping.

4. (currently amended): A design support system for supporting a design of a connection between a conductor and a connector terminal, comprising:

an estimation unit which learns beforehand a relationship between known connection data pertaining to connection design and unknown connection data pertaining to the connection design for the known connection data,

wherein the estimation unit estimates the unknown connection data pertaining to the known connection data in accordance with an input of the known connection data on the basis of the result of learning,

~~The design support system according to claim 1,~~ wherein the estimation unit further comprises:

a C/W estimation unit which, when the conductor and the connector terminal are connected together by crimping, performs learning beforehand while taking the crimp width obtained after crimping as the unknown connection data and produces crimp width data by estimating the crimp width in accordance with an input of the known connection data required for estimating the crimp width; and

a C/H estimation unit which performs learning beforehand while taking the crimp height obtained after crimping as the unknown connection data and produces crimp height data by estimating the crimp height in accordance with an input of the known connection data required for estimating the crimp height,

wherein the crimp width data produced by the C/W estimation unit are input to the C/H estimation unit as at least a portion of the known connection data required for estimating the crimp height.

5. (original): The design support system according to claim 4, wherein the estimation unit further comprises :

a compressibility estimation unit which performs learning beforehand while taking a compressibility of a conductor in the direction of a crimp height obtained after crimping as the unknown connection data and which estimates the compressibility in accordance with an input of the known connection data required for estimating the compressibility,

wherein the crimp width data produced by the C/W estimation unit and the crimp height data produced by the C/H estimation unit are input to the compressibility estimation unit as at least a portion of the known connection data required for estimating the compressibility.

6. (original): The design support system according to claim 5, wherein
the estimation unit further comprises an adhesion force estimation unit which performs learning beforehand while taking adhesion force existing between the conductor and the connector terminal after crimping as the unknown connection data and which produces adhesion force data by estimating the adhesion force in accordance with an input of the known connection data required for estimating the adhesion force, and

the crimp width data produced by the C/W estimation unit, the crimp height data produced by the C/H estimation unit, and the compressibility data produced by the compressibility estimation unit are input to the adhesion force estimation unit as at least a portion of the known connection data required for estimating the adhesion force.

7. (original): The design support system according to claim 5, wherein the estimation unit further comprises:

a resistance estimation unit which performs learning beforehand while taking contact resistance existing between the conductor and the connector terminal after crimping as the unknown connection data and which produces contact resistance data by estimating the contact resistance in accordance with an input of the known connection data required for estimating the contact resistance,

wherein the crimp width data produced by the C/W estimation unit, the crimp height data produced by the C/H estimation unit, and the compressibility data produced by the compressibility estimation unit are input to the resistance estimation unit as at least a portion of the known connection data required for estimating the contact resistance.

8. (original): The design support system according to claim 4, further comprising an input unit for manually inputting crimp width data to be input to the estimation unit as the known connection data so as to become equal to the crimp width data produced by the C/H estimation unit.

9. (original): The design support system according to claim 5, further comprising:

a sequential output unit which sequentially outputs, as the crimp height data, the crimp height data and a predetermined number of discrete values existing in a predetermined range centered on the crimp height data in accordance with an input of the crimp height data produced by the C/H estimation unit .

10. (currently amended): A design support system for supporting a design of a connection between a conductor and a connector terminal, comprising:

an estimation unit which learns beforehand a relationship between known connection data pertaining to connection design and unknown connection data pertaining to the connection design for the known connection data,

wherein the estimation unit estimates the unknown connection data pertaining to the known connection data in accordance with an input of the known connection data on the basis of the result of learning

~~The design support system according to claim 1, wherein,~~

when the conductor sheathed with an insulation cladding is connected to a slot formed in the connector terminal through press-fitting, the estimation unit performs learning beforehand while any of the slot width obtained before press fitting, a crimp height representing a height from a base of the slot to the center of the conductor obtained after press fitting, load exerted between the conductor, withdrawal force exerted between the conductor and the connector

terminal, and contact resistance existing between the conductor and the connector is taken as unknown connection data.

11. (currently amended): A design support system for supporting a design of a connection between a conductor and a connector terminal, comprising:
an estimation unit which learns beforehand a relationship between known connection data pertaining to connection design and unknown connection data pertaining to the connection design for the known connection data,
wherein the estimation unit estimates the unknown connection data pertaining to the known connection data in accordance with an input of the known connection data on the basis of the result of learning

~~The design support system according to claim 1,~~ wherein, when the conductor sheathed with an insulation cladding is connected to and press-fitted into a slot formed in the connector terminal, the estimation unit further comprises

a slot width estimation unit which performs learning beforehand while taking the slot width obtained before press-fitting as the unknown connection data and which produces slot width data by estimating the slot width in accordance with an input of the known connection data required for estimating the slot width; and

a crimp height estimation unit which performs learning beforehand while taking the crimp height from the base of the slot to the center of the conductor obtained after press-fitting as the unknown connection data and produces crimp height data by estimating the crimp height in accordance with an input of the known connection data required for estimating the crimp height,

wherein the slot width data produced by the slot width estimation unit are input to the crimp height estimation unit as at least a portion of the known connection data required for estimating the crimp height.

12. (original): The design support system according to claim 11, wherein the estimation unit further comprises a load estimation unit which performs learning beforehand while taking load exerted on the conductor after press-fitting as the unknown connection data and which produces load data by estimating the load in accordance with an input of the known connection data required for estimating the load, and

the slot width data produced by the slot width estimation unit and the crimp height data produced by the crimp height estimation unit are input to the load estimation unit as at least a portion of the known connection data required for estimating no load.

13. (original): The design support system according to claim 12, wherein the estimation unit further comprises a withdrawal force estimation which performs learning beforehand while taking withdrawal force exerted between the conductor and the connector terminal after press-fitting as the unknown connection data and which produces withdrawal force data by estimating the withdrawal force in accordance with an input of the known connection data required for estimating the withdrawal force, and

the slot width data produced by the slot width estimation unit, the crimp height data produced by the crimp height estimation unit, and the load data produced by the load estimation

unit are input to the withdrawal force estimation unit as at least a portion of the known connection data required for estimating the withdrawal force.

14. (original): The design support system according to claim 12, wherein the estimation unit further comprises a resistance estimation unit which performs learning beforehand while taking contact resistance existing between the conductor and the connector terminal after press-fitting as the unknown connection data and which produces contact resistance data by estimating the contact resistance in accordance with an input of the known connection data required for estimating the contact resistance, and

the slot width data produced by the slot width estimation unit, the crimp height data produced by the crimp height estimation unit, and the load data produced by the load estimation unit are input to the resistance estimation unit as at least a portion of the known connection data required for estimating the contact resistance.

15. (original): The design support system according to claim. 11, further comprising: an input unit for manually inputting slot width data to be input to the estimation unit as the known connection data so as to become equal to the slot width data produced by the slot width estimation unit.

16. (original): The design support system according to claim 12, further comprising:

a sequential output unit which sequentially outputs, as the crimp height data, the crimp height data and a predetermined number of discrete values existing in a predetermined range centered on the crimp height data in accordance with an input of the crimp height data produced by the crimp height estimation unit.

17. (original): The design support system according to claim 11, further comprising a sequential output unit which sequentially outputs, as the slot width data, the slot width data and a predetermined number of discrete values existing in a predetermined range centered on the slot width data in accordance with an input of the slot width data produced by the slot width estimation unit.

18. (currently amended): A design support system for supporting a design of a connection between a conductor and a connector terminal, comprising:
an estimation unit which learns beforehand a relationship between known connection data pertaining to connection design and unknown connection data pertaining to the connection design for the known connection data.

~~The design support system according to claim 1, further comprising:~~

a sequential output unit which sequentially outputs, as the known connection data, the known connection data and a predetermined number of discrete values existing in a predetermined range centered on the known connection data in accordance with an input of the connection data

wherein the estimation unit estimates the unknown connection data pertaining to the known connection data in accordance with an input of the known connection data on the basis of the result of learning.